

STUDY WEIGHS EVIDENCE ON UNIVERSAL VERSUS SELECTIVE NEWBORN HEARING SCREENING

"Modern screening tests for hearing impairment can improve identification of newborns with PHL [moderate-to-profound bilateral hearing loss], but the efficacy of UNHS [universal newborn hearing screening] to improve long-term language outcomes remains uncertain," state the authors of an article published in the October 24/31 issue of JAMA, The Journal of the American Medical Association. The authors conducted a literature review to identify strengths, weaknesses, and gaps in the evidence supporting UNHS and to compare the additional benefits and harms of UNHS with those of selective screening of high-risk newborns.

Each year, approximately 5,000 infants with PHL are born in the United States. UNHS has been proposed as a way to speed diagnosis and treatment and thereby improve language outcomes in these children. The authors found

- * Otoacoustic emissions (OAEs) and auditory brain-stem response (ABR) are highly accurate screening tests for congenital PHL.
- * UNHS increases the chance that diagnosis and treatment will occur before age 6 months. UNHS increases early identification between 19% and 42% over selective screening in high-risk children.
- * The evidence is for the assumption that identification and treatment prior to age 6 months improved language and communication in infants who would not be diagnosed that early in a selective, high-risk screening program is inconclusive.
- * The evidence for assumptions about the potential adverse effects of screening and early treatment is also inconclusive.

The authors attest to the importance of longitudinal studies of UNHS in addressing knowledge gaps, and assert that speech, language, and scholastic achievement of deaf and hard-of-hearing children should be followed over time. They suggest that better evidence about the effectiveness of UNHS could be obtained via population-based studies that begin with inception cohorts and by carefully reporting outcomes in all possible patients, as well as rates of loss to follow-up. According to the authors, states that have UNHS should conduct such population-based studies to evaluate whether the long-term language outcomes of deaf children improve as the age of identification decreases.

Thompson DC, McPhillips H, Davis RL, et al. 2001. Universal newborn hearing screening: Summary of evidence. JAMA, The Journal of the American Medical Association 286(16):2000-2010.